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| 10/669,718 | 09/25/2003 | Kouji Yokouchi | 2091-0297P | 6370 |

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| EXAMINER |
|---|
| PATEL, JAYESH A |

| ART UNIT | PAPER NUMBER |
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| 2624 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | NOTIFICATION DATE | DELIVERY MODE |
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| 3 MONTHS | 03/28/2007 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/28/2007.

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mailroom@bskb.com

PTOL-90A (Rev. 10/06)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/669,718 | YOKOUCHI, KOUJI |
| | Examiner | Art Unit | |
| | Jayesh A. Patel | 2624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on *09/25/2003*.

2a) ☐ This action is **FINAL**.    2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *1-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-24* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *09/25/2003* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All  b) ☒ Some *  c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs, which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (Claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims **[13-18]** is/are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter as follows. Claims **[13-18]**

define a **[a computer program]** embodying functional descriptive

material. However, the claim does not define a computer-readable medium or

memory and is thus non-statutory for that reason (i.e., "When functional

descriptive material is recorded on some computer-readable medium it becomes

structurally and functionally interrelated to the medium and will be statutory in

most cases since use of technology permits the function of the descriptive

material to be realized" – Guidelines Annex IV). That is, the scope of the

presently claimed **[a computer program]** can range from paper on

which the program is written, to a program simply contemplated and memorized

by a person.

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101.

... a signal does not fall within one of the four statutory classes of Sec. 101.

... signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101.

Claims **[19-24]** is/are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter as follows. Claim **[19-24]**

is drawn to functional descriptive material recorded on a **[computer-**

**readable medium]**. Normally, the claim would be statutory. However, the

specification, at page **[Page 14 Lines 26 through Page 25 Line**

**10]** defines the claimed computer readable medium as encompassing statutory

media such as a "ROM", "hard drive", "optical drive", etc, **[hard disks]** as

well as *non-statutory* subject mater such as a "signal" **[Internet**

**downloads]**.

A "signal" embodying functional descriptive material is neither a process nor a product

(i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes

of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or

tangible material.

Because the full scope of the claim as properly read in light of the disclosure

encompasses non-statutory subject matter, the claim as a whole is non-statutory.


## Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

Claims 1-3,5-9,11-15,17-21,23,24 are rejected under 35 U.S.C. 102(b) as being

anticipated by Joshi et al. (US 5982381) hereafter Joshi.

**1.** Regarding Claim 1, Joshi discloses a method in **(Fig 2)** for performing image processing on an image synthesized **(Fig 2 Element 44)** from a natural image **(Element 42)** and a computer graphic (CG) image **(Fig 8 Element 50)**, said method comprising the steps of: separating said synthesized image into a natural-image region and a CG-image region at **(Col 1 Lines 19-25,54-56 and Col 4 Lines 1-2)**. The sprite is an image region used in compositing and therefore is a part of a composite image, which is modified and blends in with the background; computing an image-processing parameter at **(Fig 1 Element 10)** for said image processing, based on said natural-image region at **(Col 1 Lines 52-56)**; acquiring an intermediate image by performing said image processing on said synthesized image, based on said image-processing parameter at **(Col 1 Lines 56-65)**; and acquiring a processed image by synthesizing said natural-image region contained in said intermediate image and said CG-image region contained in said synthesized image at **(Col 1 Lines 65-67)**.

**2.** Regarding Claim 2, Joshi discloses the method as set forth in claim 1, wherein a boundary portion between said natural-image region and CG-image region contained in said synthesized image is blurred at **(Col 5 Lines 47-57)** and then said CG-image region in said synthesized image and said natural-image region in said intermediate image are synthesized at **(Col 1 Lines 65-67)**.

**3.** Regarding claim 3, Joshi discloses the method as set forth in claim 1, wherein

said synthesized image is obtained by reading out **(Fig 1 Element 36)**

synthesized image data from a storage medium at **(Fig 1 Element 14)**.

**4.** Regarding Claim 5, Joshi discloses the method as set forth in claim 1, wherein

said separated natural image and CG image are displayed in **(Fig 1 Element**

**38)**.

**5.** Regarding Claim 6, Joshi discloses the method as set forth in claim 1, wherein

a maximum rectangular region that is inscribed in said natural-image region is set

at **(Col 3 Lines 64-67 – Col 4 Lines 1-4)**; and said image-processing parameter

is computed based on an image **(Fig 2, cut out portion 41)** within said

maximum rectangular region **(Fig 2 Element 50)** in **(Fig 4 and Col 6 Lines 49-**

**59)**.

**6.** Regarding Claim 7, Joshi discloses an image processor **(Fig 1)** for performing

image processing on an image synthesized from a natural image and a computer

graphic (CG) image, said image processor comprising: separation means for

separating said synthesized image into a natural-image region and a CG-image

region at **(Fig 1 Elements 10 and 34)**; parameter computation means for

computing an image-processing parameter for said image processing, based on

said natural-image region **(Fig 1 Elements 10 and 12)**; processing means for

acquiring an intermediate image by performing said image processing on said

synthesized image, based on said image-processing parameter **(Fig 1 Elements 10 and 12)**; and synthesis means for acquiring a processed image by synthesizing said natural-image region contained in said intermediate image and said CG-image region contained in said synthesized image **(Fig 1 Elements 10 and 12)**.

**7.** Claim 8 is an Image processor Claim performing corresponding method of Claim 2. Therefore see the explanation of Claim 2.

**8.** Claim 9 is an Image processor Claim performing corresponding method of Claim 3. Therefore see the explanation of Claim 3. Also see **(Fig 1 Element 36)**.

**9.** Claim 11 is an Image processor Claim performing corresponding method of Claim 5. Therefore see the explanation of Claim 5.

**10.** Claim 12 is an Image processor Claim performing corresponding method of Claim 6. Therefore see the explanation of Claim 6.

**11.** Claim 13 is a program performing a corresponding method of Claim 1. Therefore see the explanation of Claim 1.

**12.** Claim 14 is a program performing a corresponding method of Claim 2.

Therefore see the explanation of Claim 2.


**13.** Claim 15 is a program performing a corresponding method of Claim 3.

Therefore see the explanation of Claim 3.


**14.** Claim 17 is a program performing a corresponding method of Claim 5.

Therefore see the explanation of Claim 5.


**15.** Claim 18 is a program performing a corresponding method of Claim 6.

Therefore see the explanation of Claim 6.


**16.** Claim 19 is a computer readable medium performing corresponding method

of Claim 1. Therefore see the explanation of Claim 1.


**17.** Claim 20 is a computer readable medium performing corresponding method

of Claim 2. Therefore see the explanation of Claim 2.


**18.** Claim 21 is a computer readable medium performing corresponding method

of Claim 3. Therefore see the explanation of Claim 3.

**19.** Claim 23 is a computer readable medium performing corresponding method

of Claim 5. Therefore see the explanation of Claim 5.


**20.** Claim 24 is a computer readable medium performing corresponding method

of Claim 6. Therefore see the explanation of Claim 6.


### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

Claims 4,10,16 and 22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Joshi in view of Ohta (EP 0924648 A2) hereafter Ohta.


**21.** Regarding Claim 4, Joshi discloses the method as set forth in claim 1. Joshi

however does not disclose wherein specification of a region containing said

natural image is received; said synthesized image is separated into said natural-

image contained region and the remaining region; and said natural-image region

and said CG-image region are separated from each other by removing a region

that has the same color as a color contained in said remaining region, from said

region containing said natural-image.

Ohta discloses wherein specification of a region containing said natural image is received at **(Page 3 Lines 15-24 and Lines 32-33)**; said synthesized image is separated into said natural-image contained region and the remaining region at **(Page 3 Lines 21-24)**; and said natural-image region and said CG-image region are separated from each other by removing **(replace)** a region that has the same color as a color contained in said remaining region, from said region containing said natural-image at **(Page 3 Lines 15-24)**. Ohta discloses separating the user image and the template image and separately subjecting both of them to color correction prior to synthesis (combining). This would exhibit proper color as a whole when printed at **(Page 2 Lines 31-37)**. Both Ohta and Joshi are from the same field of endeavor and are analogous art, therefore it would have been obvious for one of ordinary skill in the art at the time the invention was made, to use the teachings of Ohta in the method and apparatus of Joshi for the above reasons.

**22.** Claim 10 is a corresponding Image processor performing the method of Claim 4. Therefore see the explanation of Claim 4.

**23.** Claim 16 is a Program performing the corresponding method of Claim 4. Therefore see the explanation of Claim 4.

**24.** Claim 22 is a Computer readable medium performing the corresponding

method of Claim 4. Therefore see the explanation of Claim 4

**The Claims can also be rejected in a following manner.**

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3 - 7, 9 -13,15 – 19 and 21 - 24 are rejected under 35 U.S.C. 102(b) as

being anticipated by Ohta (EP 0924648 A2) hereafter Ohta.

**25.** Regarding Claim 1, Ohta discloses a method of performing image processing

on an image synthesized from a natural image and a computer graphic (CG)

image in **(Fig 26 and Fig 27)**, said method comprising the steps of: separating

said synthesized image at **(Block 132 Fig 27)** into a natural-image region (user

image) and a CG-image region (template) at **(Block 132 Fig 27)**; computing an

image-processing parameter for said image processing, based on said natural-

image region at **(Block 133 Fig 27)**; acquiring an intermediate image by

performing said image processing on said synthesized image, based on said

image-processing parameter at **(Element 7 in Fig 26)**; and acquiring a

processed image by synthesizing said natural-image region contained in said

intermediate image and said CG-image region contained in said synthesized

image at **(Block 134 Fig 27 and Element 8 Fig 26)**.

**26.** Regarding claim 3, Ohta discloses the method as set forth in claim 1. Ohta

discloses wherein said synthesized image is obtained by reading out synthesized

image data from a storage medium in **(Fig 1 Element 1, 11 and Page 6 Lines

20-42)**.

**27.** Regarding Claim 4, Ohta discloses wherein specification of a region

containing said natural image is received at **(Page 3 Lines 15-24 and Lines 32-

33)**; said synthesized image is separated into said natural-image contained

region and the remaining region at **(Page 3 Lines 21-24)**; and said natural-image

region and said CG-image region are separated from each other by removing

**(replace)** a region that has the same color as a color contained in said remaining

region, from said region containing said natural-image at **(Page 3 Lines 15-24)**.

**28.** Regarding Claim 5,Ohta discloses the method as set forth in claim 1,Ohta

wherein said separated natural image and CG image are displayed in **(Fig 26

Element 6 and Col 8 Lines 22-28)**.

**29.** Regarding Claim 6, Ohta discloses the method as set forth in claim 1,

wherein a maximum rectangular region that is inscribed in said natural-image

region is set; and said image-processing parameter is computed based on an

image within said maximum rectangular region at **(Fig 18 and Page 3 Lines 29 –**

**31)**. The rectangle circumscribes the extracted region from the natural image and

the pixel data and the coordinate data (color correction or image processing) are

produced based on the extracted data.


**30.** Regarding Claim 7, Ohta discloses an image processor in **(Figs 1,2, 20-22)**

for performing image processing on an image synthesized from a natural image

and a computer graphic (CG) image at **(Fig 26 and Fig 27)**, said image

processor comprising: separation means **(Fig 20 Element 100)** for separating

said synthesized image into a natural-image region and a CG-image region at

**(Page 9 Lines 56-58)**; parameter computation means for computing an image-

processing parameter for said image processing in, based on said natural-image

region in **(Fig 21 Element 72 and Page 11 Lines 52-56)**; processing means for

acquiring an intermediate image by performing said image processing on said

synthesized image in, based on said image-processing parameter in **(Fig 20**

**Element 100 and Fig 26 Element 7)**; and synthesis means for acquiring a

processed image by synthesizing said natural-image region contained in said

intermediate image and said CG-image region contained in said synthesized

image in **(Fig 20 Element 100 ,90A  and Fig 26 Elements 8 and 9)**.

**31.** Regarding Claim 9, Ohta discloses the image processor asset forth in claim

7, further comprising read-out means in **(Fig 20 Element 71,Fig 21 Element 91-**

**94, Fi6 26 Element 3)** for obtaining said synthesized image by reading out

synthesized image data from a storage medium at **(Fig 21 and Page 11 Lines**

**28-35)**.

**32.** Claim 10 is a corresponding Image processor performing a method of Claim

4. Therefore see the explanation of Claim 4.

**33.** Claim 11 is an Image processor performing a corresponding method of Claim

5. Therefore see the explanation of Claim 5.

**34.** Claim 12 is an Image processor performing a corresponding method of Claim

6. Therefore see the explanation of Claim 6.

**35.** Regarding Claim 13, Ohta discloses a program for causing a computer to

execute a method of performing image processing on an image synthesized from

a natural image and a computer graphic (CG) image in **(Fig 20,21 and Page 10**

**Lines 32-34)** said program comprising: a procedure of separating said

synthesized image at **(Block 132 Fig 27)** into a natural-image region and a CG-

image region at **(Block 132 Fig 27)**; a procedure of computing an image-

processing parameter for said image processing, based on said natural-image region at **(Block 133 Fig 27)** ; a procedure of acquiring an intermediate image by performing said image processing on said synthesized image, based on said image-processing parameter at **(Element 7 in Fig 26)**; and a procedure of acquiring a processed image by synthesizing said natural-image region contained in said intermediate image and said CG-image region contained in said synthesized image at **(Block 134 Fig 27 and Element 8 Fig 26)**.

**36.** Claim 15 is a corresponding program performing a method of Claim 3. Therefore see the explanation of Claim 3.

**37.** Claim 16 is a corresponding program performing a method of Claim 4. Therefore see the explanation of Claim 4.

**38.** Claim 17 is a corresponding program performing a method of Claim 5. Therefore see the explanation of Claim 5.

**39.** Claim 18 is a corresponding program performing a method of Claim 6. Therefore see the explanation of Claim 6.

**40.** Claim 19 is a Computer readable medium performing the method of Claim 1. Therefore see the explanation of Claim 1.

**41.** Claim 21 is a Computer readable medium performing the method of Claim 3.

Therefore see the explanation of Claim 3.

**42.** Claim 22 is a Computer readable medium performing the method of Claim 4.

Therefore see the explanation of Claim 4.

**43.** Claim 23 is a Computer readable medium performing the method of Claim 5.

Therefore see the explanation of Claim 5.

**44.** Claim 24 is a Computer readable medium performing the method of Claim 6.

Therefore see the explanation of Claim 6.

## *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2,8,14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ohta in view of Joshi.

**45.** Regarding Claim 2, Ohta discloses the method as set forth in claim 1. Ohta

however does not disclose wherein a boundary portion between said natural-

image region and CG-image region contained in said synthesized image is

blurred and then said CG-image region in said synthesized image and said

natural-image region in said intermediate image are synthesized.

Joshi discloses wherein a boundary portion between said natural-image

region and CG-image region contained in said synthesized image is blurred and

then said CG-image region in said synthesized image and said natural-image

region in said intermediate image are synthesized at **(Col 1 Lines 19-45 and Col**

**5 Lines 54-60)**. Joshi also discloses generating a distance mask using

chamfering technique. Joshi also discloses the invention provides high

calculation efficiency and fast response at **(Col 2 Lines 12-15)**. Both Ohta and

Joshi are from the same field of endeavor and are analogous art, therefore it

would have been obvious for one of ordinary skill in the art at the time the

invention was made, to use image blurring techniques as taught by Joshi in

smoothing the boundary edges in the image processing method and apparatus of

Ohta for the above reasons.

**46.** Claim 8 is a corresponding Image processor performing a method of Claim 2.

Therefore see the explanation of Claim 2.

**47.** Claim 14 is a Program performing corresponding method of Claim 2.

Therefore see the explanation of Claim 2.


**48.** Claim 20 is a Computer readable medium performing a method of Claim 2.

Therefore see the explanation of Claim 2.


### *Conclusion*

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jayesh A. Patel whose telephone number is 571-

270-1227. The examiner can normally be reached on M-F 7.00am to 4.30 pm (5-

4-9). If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

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9199 (IN USA OR CANADA) or 571-272-1000.

Jayesh Patel
03/14/07

JINGGE WU
SUPERVISORY P

JINGGE WU
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